

Flanks light green. Centre of abdomen rufous, bounded above by a deep purple line. Crissum and under tail-coverts bright yellow, the latter orange towards their tips. Back and upper tail-coverts bright green. Scapulars tipped with lilac. Tail bright green, with a broad apical yellow band. Bill greenish, with a yellow tip. Feet probably dark red. Total length  $8\frac{1}{2}$  inches, wing  $5\frac{1}{4}$ , tail 3, culmen  $\frac{9}{16}$  inch.

*Hab.* Nukahiva (type), Marquesas Islands, Samoa (*Whitmee*); Savage Island, Navigators' and Friendly Islands (*Layard*).

This is, I presume, the bird called *P. apicalis* by Layard in the 'Proceedings of the Zoological Society' for 1876, p. 495. It differs from the *P. apicalis*, Bon., a very distinct species, by being of a much lighter colour on the neck and breast, and by having the rufous of the abdomen bounded above by *deep purple*, and the scapulars tipped with lilac. In the type of *P. apicalis* there is no purple on the abdomen, the patch being rufous mixed with yellow, and the scapulars are uniform green. The locality Vavao, given by Bonaparte, is questionable, as the type was brought by Hombron and Jacquinot from the Samoan Islands; but which one is not stated. The type of the *Ptilopus pictiventris* is now in the collection of the Paris Museum, and came from *Nukahiva*, of the Marquesas group. I have also seen two specimens in the British Museum, sent by the Rev. S. J. Whitmee from Samoa and Savage Island, which are precisely like the type, and bore upon their label (written by Mr. Whitmee) the name of *Ptilopus fasciatus*, Peale, which is a very different species, in no way to be confounded with it. As there is considerable confusion still existing among these small fruit-pigeons of the South-Sea Islands, I will add that the present new species differs from the others with a yellow apical band on the tail especially by the colouring of the abdomen. Its proper position in the group will be fully shown in a paper upon these birds, on which I have been for some time engaged, and have now nearly ready for publication.

## MISCELLANEOUS.

### *On Dinichthys, Newberry.*

PROF. OWEN, followed in this by Prof. Huxley, constituted an order, Protopteri (Dipnoi, Huxley), for the genus *Lepidosiren*, which combines with essentially ichthyic characters structural peculiarities which greatly approximate it to the perennibranchiate Batrachians. Paul Gervais and others, on the contrary, class the

type of this order among the Ganoids; and Dr. Günther, going still further, regards the Dipnoi as nothing more than a suborder of the Ganoids, and thinks that these latter should be united with the Plagiostomi, to form with them a single order (Palæichthyes) characterized by a heart furnished with a contractile arterial bulb, an intestine with a spiral valve, and uncrossed optic nerves.

The discovery of *Ceratodus Forsteri* certainly seems to diminish the value of the order Dipnoi. This fish, which approaches *Lepidosiren* in regard to its respiratory apparatus, departs from it, on the other hand, by the structure of its heart, which is perfectly ganoidean, consisting only of two cavities with an arterial bulb; moreover the intestine is furnished with a spiral valve. The genus *Dinichthys* is a new type, which, combining the osteological characters of the *Lepidosirens* and those of the Placoderms (cuirassed Ganoids), furnishes an additional argument in favour of M. Gervais's opinion and establishes a fresh transition between the different groups of Ganoids.

Besides its great size (a cranium measures 3 feet in length and 2 in breadth) the *Dinichthys* is especially remarkable by its dentition. The lower jaw consists of massive rami, the posterior extremities of which are rounded and flat. The anterior part of each ramus is bent upwards so as to form a sort of strong, acute, and prominent tooth; behind this tooth the jaw is thickened by a bony projection on the inside, which terminates in front in a triangular process like a tooth; beyond this process the margin of the mandible is compressed for a distance of 5 or 6 inches, and consists of a very dense bone-like enamel; in one species this margin is entire but trenchant; in another it is denticulated with conical points half an inch long.

The upper jaw consists of two triangular premaxillaries, constituting, as it were, two great incisors, followed by two maxillaries with trenchant or denticulate margins. This structure much reminds us of the dentition of *Lepidosiren* and *Coccosteus*; and the resemblance becomes still more striking when we compare figures representing these three forms. Unfortunately, the upper part of the cranium being but imperfectly known, we cannot tell whether the bones called premaxillaries by Mr. Newberry are or are not the homologues of the dentigerous nasals of *Lepidosiren*; but with respect to the mandible the resemblance is as complete as could be desired.

The body of *Dinichthys* was covered with a buckler composed of plates exactly similar to those of *Coccosteus decipiens*, of the same number, and arranged in an almost identical manner, the only differences shown by a comparison of the figures being a certain narrowness of the buckler and the termination in a sort of point of the outer angle of the posterior plates.

The jaws of *Dinichthys* present several points of resemblance to those of *Coccosteus*; but this is not the case with the cranium and the back, the bony armour of which, in the former fish, much more resembles that of *Asterolepis* and *Heterosteus*. Whilst the outer

surface of the bony plates of the Placoderms is covered with stellate tubercles, that of *Dinichthys* is only marked with fine granulations, with slightly deeper and very irregular furrows. The fins are only known from a fragment 6 inches long and 3 or 4 inches broad, which probably formed part of a median fin with ossified rays as thick as a man's little finger.

Thus, as we pass from the *Dipteri* of the Devonian to the existing *Ceratodus Forsteri* by means of the Carboniferous *Ctenodus* and the Triassic *Ceratodus*, so *Dinichthys* binds together *Coccosteus*, *Pterichthys*, *Asterolepis*, and *Lepidosiren*, although in both cases we by no means possess all the intermediate forms.—*Bibl. Univ.* June 15, 1877, *Arch. des Sci.* p. 195.

*On an Ostracode Crustacean of a new Genus (Acanthopus), met with in the deep Waters of the Lake of Geneva.* By M. H. VERNET.

This entomostracan cannot be referred to any type hitherto observed in fresh water; it belongs to the marine family Cytheridæ. Like the representatives of that family it possesses only a single pair of maxillæ, and, on the other hand, three pairs of feet armed with strong hooks at their basal articulation (the other freshwater Ostracodes having two pairs of maxillæ and two pairs of legs). The rudimentary postabdomen is reduced to two rounded lobes, each bearing two hairs. The antennæ also much more resemble the type of the Cytheridæ than that of the Cypridæ.

The reproductive apparatus does not present any thing peculiar; it resembles that of the Ostracodes in general. Besides the sexual tube there is a *receptaculum seminis* in the female, and a very complicated chitinous copulatory apparatus in the male. The vulvæ are placed below the two postabdominal lobes.

With regard to its mode of life, this crustacean is unable to leave the bottom. It does not swim at all; it sometimes creeps, but usually buries itself, and thus travels in the mud and organic débris by the aid of its feet and antennæ. The hairs and segments of the feet are driven into the mud, which serves as a support. The strong hooks of the basal articulation are especially useful, but give a somewhat awkward appearance to the mode of progression. The mechanism of this locomotion may be compared to that of a man who endeavours to advance upon his knees, aiding himself with his toes.

The two pairs of antennæ act in opposite directions; their action may be compared to that of the two anterior paws of a mole. These are the members which enable our crustacean to bury itself in the mud.

With reference to the origin of this organism two suppositions may be formed: it may be descended from a marine species introduced by some means into our lakes; or it may have for its ancestor a freshwater crustacean; the genus *Candona* would be that which it most resembles, though nevertheless very dissimilar. The field of hypotheses remains open upon this point.—*Bibl. Univ.* Oct. 15, 1877, *Arch. des Sci.* p. 334.